IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1-6. (Canceled)

7. (Currently Amended) An information ~~transmission~~transmitting apparatus for transmitting information through a first transmission path, comprising:

~~a switching circuit having a first terminal and a second terminal;~~

~~memory means having a first memory section and a second memory section for storing a NIT table of a transmission path, the first memory section and the second memory section being coupled with the first terminal and the second terminal respectively;~~

receiving means for receiving a broadcasting signal from a second transmission path;

demodulation means for demodulating the signal received by the receiving means; ~~and~~

modulation means for modulating the signal demodulated by the demodulation means,

wherein when the second transmission path includes services of a plurality of satellites belonging to different networks, the demodulated signal from the second transmission path includes network information of the different networks, ~~is stored in different locations in the~~

~~memory means~~including an actual network information table and an other network information table,

~~wherein a table indicating physical information of a transmission path is contained in the broadcasting signal and is distinguished by a unique table ID,~~

~~wherein the table is segmented into a plurality of sections with a same format, each section having a section indicator and a last section indicator,~~

~~wherein the modulation means includes network information replacement means for replacing network information demodulated by the demodulation means with information for the first transmission path,~~

~~wherein the information for the first transmission path includes a first delivery system descriptor and the network information includes a second delivery system descriptor,~~

~~wherein said first delivery system descriptor length and said second delivery system descriptor length are set in accordance with a transport stream descriptor length,~~

~~wherein NIT tables of transport streams are alternately stored in the first memory section and the second memory section,~~

~~wherein the switching circuit alternately outputs the NIT table stored the first memory section and the second memory section every transport packet by switching between the first terminal and the second terminal,~~

extraction means for extracting the actual network information table and the other network information table from the demodulated signal, and storing the extracted information in a FIFO memory,

wherein the network information table for the actual network and the other network are stored in an alternating manner in the FIFO memory,

wherein the network information table indicates the physical information of its network in the second transmission path and is distinguished by a unique table ID,

wherein the network information table is segmented into a plurality of sections with a same format, each section having a second indicator and a last section indicator;

wherein the modulation means further includes a network information replacement means for replacing network information extracted by the extraction means with network information for the first transmission path,

wherein the network information replacement means comprises:

a switching circuit having a first terminal and a second terminal;

memory means having a first memory section and the second memory section being coupled with the first terminal and the second terminal respectively,

wherein the network information table for the first transmission path includes a first delivery system descriptor and network information table for the second transmission path includes a second delivery descriptor,

wherein the first delivery system descriptor length and second delivery system descriptor length are in accordance with a transport stream descriptor length;

wherein the network information table for the actual network and other network for the first transmission path are alternately stored in the first memory section and the second memory section;

wherein as network information table for actual network and other network from the FIFO memory of the extraction means is transmitted to the network information replacement means, the switching circuit selectively replaces the network information of actual network and other network of the second transmission path by alternately outputting the corresponding actual and other network information of the first transmission path stored in the first memory section and the second memory section;

wherein service identifiers of network information that are not retransmitted are deleted and placeholder data that has the same length of the deleted service identifiers is added, the placeholder data being determined according to a specification of the information transmission apparatus, and

wherein a plurality of service list descriptors are appended to a transport stream identifier in accordance with the length of a said transport stream descriptor for identifying ~~a new or~~ previous transmission.

8. (Canceled)

9. (Currently Amended) An apparatus according to claim 7, wherein the network information replacement means includes:

a network information ~~extraction~~conversion means for ~~extracting~~converting the network information ~~of the signal demodulated by the demodulation means~~extracted by the extraction means in compliance with a network to which the network information is to be retransmitted, and,

~~network information conversion means for converting the network information extracted by the network information extraction means in compliance with a network to which the network information is to be retransmitted, and~~

~~network information reinsertion means for replacing the network information of the signal demodulated by the modulation means with the information for the first transmission path, using the network information converted by the network information conversion means as the information for the first transmission path.~~

wherein the network replacement means replaces network information of the signal extracted by the extraction means with information for the first transmission path, using the network information converted by the network information conversion means as the information for the first transmission path.

10. (Previously Presented) An apparatus according to claim 9, wherein the first transmission path is a cable television channel, and the second transmission path is a satellite broadcasting channel.

11. (Currently Amended) An apparatus according to claim 10, wherein ~~the~~ extracted network information for the actual network and the other network are converted by the network information conversion means into network information that comply with a network to which the network information are to be retransmitted and the network replacement means replaces the network information of the extracted signal by the extraction means with network~~replacement means extracts, from a signal from an arbitrary satellite system network~~

~~among a plurality of satellite system networks, a network information item concerning the arbitrary satellite system network, and a network information item concerning another satellite system network, by means of the network information extraction means, converts respectively the network information items into network information items that comply with a network to which the network information items are to be retransmitted, and replaces the network information of the signal demodulated by the demodulation means with~~ information for a cable network, using the network information ~~items~~ converted by the network information conversion means as the information for the cable.

12. (Currently Amended) An information transmission method utilized by an information transmission apparatus for transmitting information through a first transmission path, said method comprising:

a receiving step of receiving a broadcasting signal from a second transmission path,

a demodulation step of demodulating the signal received in the receiving step,

a modulation step for modulating the signal demodulated in the demodulation step,

wherein when the second transmission path includes services of a plurality of satellites belonging to different networks, the demodulated signal from the second transmission path includes network information of the different networks, including an actual network information table and an other network information table,

an extraction step of extracting the actual network information table and other network information table vrom the demodulated signal, and storing the extracted information in a FIFO memory,

wherein the network information table for the actual network and the other network are stored in an alternating manner in the FIFO memory,

wherein the network information table indicates the physical information of its network in the second transmission path and is distinguished by a unique table ID,

wherein the network information table is segmented into a plurality of sections with a same format, each section having a section indicator and a last section indicator,

wherein the modulation step further includes a network information replacement step for replacing network information extracted by the extraction means with network information for the first transmission path,

wherein the network information replacement step comprises,

a switching step of switching between a first terminal and a second terminal;

a storing step of storing ~~a NIT table of a~~network information of the first transmission path to a first memory section and a second memory section~~, the first memory section and the second memory section~~ being coupled with the first terminal and the second terminal respectively,

wherein network information table for the actual network and other network for the first transmission path are alternately stored in the first memory section and the second memory section,

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wherein as network information table for actual network and other network from the FIFO memory of the extraction step is transmitted for replacement at the replacement step, the switching step selectively replaces the network information of actual network and other network of the second transmission path by alternately outputting the corresponding actual and other network information of the first transmission path stored in the first memory section and the second memory section,

wherein the network information table for the first transmission path includes a first delivery system descriptor and network information table for the second transmission path includes a second delivery descriptor,

wherein the first delivery system descriptor length and second delivery system descriptor length are in accordance with a transport stream descriptor length,

wherein services identifiers of network information that are not retransmitted are deleted and placeholder data that has the same length of the deleted service identifiers is added, the placeholder data being determined according to a specification of the information transmission apparatus, and

~~a receiving step of receiving a broadcasting signal from a second transmission path;~~

~~a demodulation step of demodulating the signal received in the receiving step; and~~

~~a modulation step of modulating the signal demodulated by the demodulation step,~~

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~~wherein when the second transmission path includes services of a plurality of satellites belonging to different networks, network information of the different networks is stored in different locations in a memory means,~~

~~wherein a table containing physical information of a transmission path is contained in the broadcasting signal and is distinguished by a unique table ID,~~

~~wherein the table is segmented into a plurality of sections with a same format, each section having a section indicator and a last section indicator,~~

~~wherein the modulation step includes a step of replacing network information demodulated by the demodulation step with information for the first transmission path,~~

~~wherein the information for the first transmission path includes a first delivery system descriptor and the network information includes a second delivery system descriptor,~~

~~wherein said first delivery system descriptor length and said second delivery system descriptor length are set in accordance with a transport stream descriptor length,~~

~~wherein NIT tables of transport streams are alternately stored in the first memory section and the second memory section,~~

~~wherein the switching step alternately outputs the NIT table stored the first memory section and the second memory section every transport packet by switching between the first terminal and the second terminal,~~

~~wherein service identifiers of network information that are not retransmitted are deleted and placeholder data that has the same length of the deleted service identifiers is added, the placeholder data being determined according to a specification of the information transmission apparatus, and~~

wherein a plurality of service list descriptors are appended to a transport stream identifier in accordance with the length of a said transport stream descriptor for identifying a new or previous transmission.

13. (Canceled)

14. (Currently Amended) A method according to claim 12, wherein the network information replacement step includes:

a network information ~~extraction~~conversion step of ~~extracting~~converting the network information extracted by the extraction step in compliance with a network to which the network information is to be retransmitted, and~~of the signal demodulated in the demodulation step~~,

the network replacement step replaces network information of the signal extracted by the extraction step with information for the first transmission path, using the network information converted by the network information conversion step as the information for the first transmission path.

~~a network information conversion step of converting the network information extracted in the network information extraction step so as to comply with a network to which the network information is to be retransmitted, and~~

~~a network information reinsertion step of replacing the network information of the signal demodulated in the modulation step with the information for the first transmission path,~~

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~~using the network information converted in the network information conversion step as the information for the first transmission path.~~

15. (Currently Amended) A method according to claim 12, wherein the first transmission path is a cable television channel [[,]] and the second transmission path is a satellite broadcasting channel.

16. (Currently Amended) A method according to claim 12~~15~~, wherein ~~in the~~extracted network information for the actual network and the other network are converted by the network information conversion step into network information that complies with a network to which the network information are to be retransmitted and the network replacement step replaces the network information of the extracted signal by the extraction step with network information for a cable network, using the network information converted by the network information conversion step as the information for the cable ~~replacement step, from a signal from an arbitrary satellite system network among a plurality of satellite system networks, a network information item concerning the arbitrary satellite system network and a network information item concerning another satellite system network are extracted,~~

~~in the network information conversion step, the network information items extracted in the network information extraction step are converted into network information items that comply with a network to which the network information items are to be retransmitted, and~~

~~in the network information reinsertion step, the network information of the signal demodulated in the demodulation step with information for a cable, using the network information items converted in the network information conversion step as the information for the cable.~~

17-18. (Canceled)

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